

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-006107**Date Inspected:** 26-Mar-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 645**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1845**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower Fabrication**Summary of Items Observed:**

CWI Inspectors Mr. Ye Zongjun, Mr. Liu Liang

On this date CALTRANS OSM Quality Assurance (QA) Inspector Mr. Paul Dawson arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. The QA Inspector observed the following:

Tower Bay 10

The QA Inspector observed ZPMC welder Mr. Jiang Taian, stencil 050038 is using the shielded metal arc welding process to make a 3F (vertical) fillet weld on shear link WDI-A667-47.6m stiffeners. The QA Inspector observed ZPMC QC personnel measuring a welding current of 187 amps. Prior to welding the QA Inspector observed ZPMC personnel to be using torches to preheat the base material where the weld is to be made. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector observed ZPMC welder Ms. Chen Ziqion, stencil 056364 is using the shielded metal arc welding process to make a 3F (vertical) fillet weld on shear link WDI-A667-47.6m stiffeners. The QA Inspector observed ZPMC QC personnel measuring a welding current of 165 amps. Prior to welding the QA Inspector observed ZPMC personnel to be using torches to preheat the base material where the weld is to be made. Items observed by the QA Inspector appear to comply with project specifications.

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The QA Inspector observed ZPMC welder Mr. Liu Qingyon, stencil 066479 is using the shielded metal arc welding process to make a weld repair to the north skin E stiffener to skin plate weld NSD1-SA61-Z/G-14. The QA Inspector used a 100 degree Celsius temperature indicating crayon to determine the base material adjacent to where the weld is being deposited has not been preheated to a minimum of 110 degrees Celsius as required by the welding specifications. The QA Inspector informed CWI Mr. Liu Liang that this base material had not been adequately preheated prior to commencement of the welding. Mr. Liu Liang said the welder had not informed any QC Inspector that he was intending to weld in this location. Mr. Liu Liang said he will have the weld material ground out and the area will be rewelded once the base material is properly preheated. The QA Inspector later observed QC personnel verifying the base material was preheated to a minimum of 110 degrees Celsius and the QC Inspector measured Mr. Liu Quingyon having a welding current of 165 amps. Items observed by the QA Inspector do not appear to fully comply with project specifications. See the photographs below for additional information.

Tower Bay 11

This QA Inspector performed random ultrasonic inspections of approximately 10 percent length of Tower Shear Plate 29A weld ED1-A29 A/B-1 r1. This weld had previously been ultrasonically inspected and accepted by ZPMC inspection personnel. The QA Inspector observed the weld that was ultrasonically inspected by this QA Inspector appears to comply with AWS D1.5 UT requirements. For additional information on this inspection see the TL6027 Ultrasonic Test Report.

The QA Inspector observed ZPMC welder Ms. Cao Xiachua stencil 056975 is using welding procedure specification WPS-B-T-2221-B-S2 to make shear plate A21 submerged arc groove weld WD1-A21-A/B-9A. The QA Inspector observed ZPMC Quality Control personnel measuring Ms. Cao Xiachua having a welding current of approximately 650 amps, 32.0 volts and a travel speed of 550 mm per minute. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector observed ZPMC welder Mr. Xue Yian, stencil 0406345 is using welding procedure specification WPS-B-T-2221-B-S2 to make East tower lift 3, skin E submerged arc groove weld ESD1-FESA3-2A/D-9B. The QA Inspector observed ZPMC Quality Control personnel had measured Mr. Xue Yian having a welding current of approximately 670 amps, and 31.5 volt. Items observed by the QA Inspector appear to comply with project specifications.



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Summary of Conversations:

See above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Serge Sinevod phone: 134-8257-0045 , who represents the Office of Structural Materials for your project.

Inspected By:	Dawson,Paul	Quality Assurance Inspector
Reviewed By:	Clifford,William	QA Reviewer
